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ABSTRACT

Effects of group participation in a recreation program emphasizing perceptual motor skills and interpersonal values of potentially delinquent boys were examined and compared to the same effects in a group of normal boys participating in a separate but similar program. The boys ranged in age from 12 to 18 years. Perceptual motor skills measured were balance (forward, backward, and side ways), jumping, abdominal strength, and neuromuscular differentiation. Interpersonal values were measured by the relative importance placed on support, conformity, recognition, independence, benevolence, and leadership. The boys reported on the number of days they participated in their programs and on the predominant activities they were involved with. This information, combined with observations, provided a daily activity record for each participant. It was found that, generally, group participation in the summer recreation program did not significantly affect measures of perceptual motor skills and interpersonal values of potentially delinquent boys. There was no significant difference found between delinquent and normal boys before or after participation. There was also no significant difference between the groups in follow up tests. It was concluded the amount of participation produced no significant differences between the groups. (JD)

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THE FFFECT OF GROUP PARTICIPATION IN A RECREATION PROGRAM ON PERCEPTUAL-MOTOR SKILLS AND INTERPERSONAL VALUES OF POTENTIALLY DELINQUENT BOYS

A paper presented at the Southern District Convention of the American Alliance for Health, Physical Education, Recreation and Dance

By

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INTRODUCTION

Recreation or leisure time usage has been viewed as a pacifier of delinquency. Authorities have used recreation programs and recreational opportunities to keep potential delinquents out of trouble and to keep institutionalized delinquents occupied. Researchers have asserted that recreation can serve as a deterrent to delinquency. They maintain that the interaction which occurs through the course of a recreational activity may meet the need deficits of the potential delinquent. It is theorized that the social interaction abilities gained through group participation in a recreation program enable the potential delinquent to avoid his counter-cultural course.

Robert Merton viewed any deviant behavior as being the result of strain. This strain is caused when the legitimate avenues to march toward the goal become blocked or disguised.[1] It could be said that the needs of basic social adjustment for the delinquent are not being met. Recreational provisions have been shown to meet some of these needs in a casual way. The future progress of utilizing recreation to combat delinquency rests with the study of unfulfilled needs. It is suggested that these unfulfilled needs could be blocking the normal social adjustment of the potentially delinquent individual.

Former Executive Director of the National Recreation Association,

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[1]Ruth Wallace and Allison Wolf, Contemporary Sociological Theory (New Jersey: Prentice-Hall, 1980), p. 67.

Joseph Prendergast, was quoted: "Recreation operates in a positive way in its relation to delinquency by building in the boy or girl interests, skill, and resources which crowd out the call of the gang."[2]

Now, budgets are being cut. Andrea Cromwell, Program Director of Youth Bridge inc., stated that the region funding of programs, including recreation programs for delinquents, was cut 40% effective July 1, 1981, and there was no increase in funds as of October of 1982.[3] Hence, it seems that more justification is needed for recreation programs which involve delinquents and potential delinquents if adequate funding is to be maintained. It is the responsibility of the recreation professional to help the juvenile authorities justify their recreational provisions. Such information will assist recreation educators as they prepare students for the challenges of today's society and that of the future.

Statement of the Purpose

The purpose of the study was to examine the effect of group participation in a recreational program on selected skills and interpersonal values of potentially delinquent boys. A secondary purpose of the study was to compare the effect of group participation in a recreation program on potentially delinquent boys with a comparable group of normal boys.

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[2]United States Congress, Senate Committee on the Judiciary: Juvenile Delinquency (Washington D.C.: Government Printing Office, 1954).

[3]Statement by Andrea Cromwell, Program Director of Youth Bridge inc., in a personal interview, Fayetteville, Arkansas, December 7, 1982.

Importance of the Study

There has been little research in the area of the effect of participation in an organized recreation program on potential juvenile delinquents. Joseph Prendergast, in a presentation before a committee of United States Senators, stated that recreation could be a deterrent to delinquency (a problem that societies seem to have battled and will continue to battle).[4] While juvenile delinquency remains a serious problem, budgets for recreational provisions are being cut. Prendergast's point could go unproven without specific evidence. Recreation programs for delinquents could serve as more than a diversion from delinquent behavior. The benefits an individual can receive in a recreation program that would prevent or curtail that individual's deviant behavior need to be studied.

Delinquency has long been a problem in our country. As early as 1953, Congress passed Senate Resolution 89 to investigate the problem of juvenile delinquency. The report stated that the majority of boys and girls who came before the juvenile courts were between fifteen and seventeen years of age.[5] Legally, a youngster under a certain age, which varies from state to state, is a delinquent only when a juvenile court adjudicates to this effect.[6] This means that the juvenile has been found guilty of an offense, which, if such act had been committed by an adult,

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[4]United States Congress, Senate Committee on the Judiciary: Juvenile Delinquency (Washington D.C.: Government Printing Office, 1954).

[5]Ibid.

[6]William C. Kvaraceus, What Research Says to the Teacher: Juvenile Delinquency (Boston: National Education Association, 1958), p. 6.

would subject such adult to prosecution.[7]

Delinquency figures have continued to rise. From 1950 to 1960, arrests for serious crimes committed by juveniles increased by ninety percent.[8] It has been reported that arrests of juveniles for violent crimes have increased two hundred and eighty-three percent from 1960 to 1979.[9]

Two of the most noted authorities on delinquency, Sheldon and Eleanor Glueck, stated that leisure time activities could be a deterrent to delinquency. In their book, Unraveling Juvenile Delinquency, they state:

> . . . there is a need for extensive provision of activities and locales in which more primitively organized boys can gain satisfaction, discharge their energies and work off their tensions without running afoul of legal restraints at every hand. There can be no doubt that provisions of legitimate moral equivalents for the acts of aggressive energy of most potential and early delinquents is a crying need . . .[10]

The direction of uses of recreation for special populations should rest with studies of the effects of the recreation programs on special populations. The attempt should be made to justify the recreation programs that many sense to be helpful in treating delinquency.

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[7]Washington County Juvenile Court, Juvenile Court Handbook (Fayetteville, AR: Washington County Juvenile Courts, 1981), p. 16.

[8]H.G. Garner, "Children and Society on the Take", Christian Century, 95:1044-1048, November, 1978.

[9]"No More Kid Gloves for Hoodlums", U.S. News and World Report, 86:2, March 5, 1979.

[10]Sheldon and Eleanor Glueck, Unraveling Juvenile Delinquency, (New York: The Common Wealth Fund, 1950), p. 288.

PROCEDURES

The study was designed to examine the effect of group participation in a recreation program on perceptual-motor skills and interpersonal values of potentially delinquent boys. Another concern was to compare the effect of group participation in a recreation program on potentially delinquent boys with normal boys of relatively the same age.

This chapter contains: (1) descriptions of the populations and samples; (2) evidence of the validity and reliability of the Purdue Perceptual-Motor Survey and Gordon's Survey of Interpersonal Values; (3) a description of the data gathering process; and (4) an explanation of the statistical treatment of the data.

Populations and Samples

Male subjects were classified as potentially delinquent and referred to the study by David Black, Washington County Probation Officer; Dale Clark, Director of the Fayetteville Youth Center; and Rocky Driver, Recreation Coordinator for Youth Bridge, inc. The sample represented a spectrum of delinquency ranging from mere "troublemakers" to adjudicated offenders on probation. The boys ranged in age from 12 to 18 years and were involved in a summer recreation program. A sample of normal boys, comparable to the potentially delinquent group and of the same age range, were selected from volunteers at the Fayetteville Youth Center. The Youth Center Staff helped target selected normal boys for participation in the study.

Twenty-five potentially delinquent boys, recommended by Dale Clark, Rocky Driver and David Black, began the study along with twenty-three normal boys who volunteered as subjects. Twenty subjects from each group completed the study. Those subjects that did not complete the study were eliminated due to: lack of participation in the recreation program; failure to correctly respond according to the directions of the instruments; and becoming unavailable to take part in the study (ie. moved away etc...).

All participants in the study were asked to report the number of days they participated in their respective recreation programs. In addition, all participants in the study were asked to list the predominant activities they were involved in. This information was used in conjunction with observations by supervisors and the researcher to develop a daily activity record which is found in Appendices A and B.

Selection of the Survey of Interpersonal Values

The Survey of Interpersonal Values (SIV), developed by Gordon in 1960 and revised in 1963, was used to measure interpersonal values.[1] The test was designed to measure the relative importance ascribed to each of six factored interpersonal value dimensions. These values included both the subject's relations with others, and others with him. The six dimensions consisted of:

1. Support - being treated with understanding, encouragement,

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[1]John Robinson and Phillip Shaver, Measures of Social Psychological Attitudes (Ann Arbor, Michigan: Survey Research Center, Institute for Social Research, 1973), p. 515.

kindness and considerations.

2. Conformity - doing what is socially correct, accepted, and proper.

3. Recognition - being admired, looked up to, considered important, and attracting favorable notice.

4. Independence - being able to do what one wants to do, making one's own decisions, doing things in one's own way.

5. Benevolence - doing things for other people, sharing, and helping.

6. Leadership - being in charge of others, having authority or power.[2]

The SIV consisted of thirty groups of three statements. Within each triad, there were three statements - each reflecting an interpersonal value. The respondent was asked to check the statement most and least important to him.[3]

Gordon estimated the reliability of the SIV by the test-retest method using two hundred and thirty-two subjects, which included high school, college, and adult samples. Test-retest reliability coefficients ranged from .78 to .89 for the six value scores. Medium range was r = .84.[4]

Gordon listed twenty-five research briefs in his manual emphasizing the validity of his scales. The SIV has been used as a predictor of job and educational success, as a way of examining cross-cultural differences, and as a way to measure change which resulted

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[2]Ibid., p. 514. [3]Ibid.

[4]Ibid.

from educational or other changes.[5,6]

Selection of the Purdue Perceptual-Motor Survey

Skill deficits have been reported to be parameters of juvenile offender dysfunction. The lack of some skills may tend to affect normal social adjustment. Thus, a knowledge of a potentially delinquent youth's lack of skills could be helpful in altering that youth's counter-culture course.[7]

The Purdue Perceptual-Motor Survey was developed to assess the perceptual-motor abilities of retarded and non-achieving children.[8] Selected items from the PPMS were used to measure the perceptual-motor skills of the participants in this study. The items selected for this study were: (1) balance and posture and (2) body image and differentiation.

The subtests of balance and posture included walking on a floor-level balance beam forward, backward, and sideways. The primary question to be answered by this item is whether the subject has a general balance problem. Specific skills observed include: use of both sides of the body for balance; ability to transfer and generalize prior

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[5]John K. Hemphill, In Oscar Krisen Buros, The Sixth Mental Measurement Yearbook (Highland Park, New Jersey: The Gryphon Press, 1965), p. 185.

[6]Leonard V. Gordon, Survey of Interpersonal Values, Revised Manual (Science Research Associates, 1976), pp. 17-43.

[7]Thomas R. Collingwood and Robert W. Genthner, "Skills Training as Treatment for Juvenile Delinquents", Professional Psychology, 11:4: 591, August, 1980.

[8]Eugene G. Roach and Newell C. Kephart, The Purdue Perceptual-Motor Survey (Columbus, Ohio: Charles E. Merrill Co., 1966), p. 2.

learning to meet new balance situations; and willingness to perform the task.[9]

The subtests of body image and differentiation included a jumping test, the Kraus-Weber abdominal strength test, and the Angels-in-the-snow test. The jumping subtest was included to detect laterality, body image, rhythm, or neuromuscular control problems. The Kraus-Weber subtest of the PPMS was included as a measure of abdominal strength and muscular fitness. The Angels-in-the-snow subtest was used to detect problems in neuromuscular differentiation and specific problems with right or left-sidedness.[10] A copy of the adapted scoring form used in this study has been placed in Appendix I.

In order to establish reliability and validity, Roach and Kephart administered all thirty items of the PPMS to matched samples of 97 non-achievers and 200 normative subjects. Chi squares were computed on each item of the PPMS. The analysis was made by assigning subjects who obtained a rating of 1 or 2 on an item to a fail category. Subjects who obtained a rating of 3 or 4 on an item were assigned to a pass category. The chi square values of the items to be used in this study were significant at the .05 level.[11]

Collection of the Data

The Survey of Interpersonal Values and the selected items from the Purdue Perceptual-Motor Survey were administered to the potentially delinquent group and the normal group during the Summer of 1982. The

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[9]Ibid., pp. 28-32.

[10]Ibid., pp. 32, 42, 44.

[11]Ibid., p. 22.

tests were administered during the first week in June; the first week in August; and the last week in September, (after school was in session).

The investigator administered the tests to all participants in the study. For the purpose of administering the PPMS, a balance beam was constructed according to the specifications included in the PPMS manual.[12] In addition, to insure access to the potentially delinquent group, the investigator applied for and achieved status as a Juvenile Court Volunteer and a Youth Br Volunteer. Under the confidentiality laws of the State of Arkansas, the names and records of the potentially delinquent group were kept confidential.

The purpose of the study was explained verbally to all participants prior to the initial testing. Participants were assured that their responses would be confidential. It was anticipated that this would lessen the possibility of the participants responding in a socially acceptable manner as opposed to being totally honest in their responses.

All participants were requested to account for the amount and type of recreational activities they participated in through their respective recreation programs. This information was used in conjunction with observations by supervisors and the investigator to develop a daily activity record found in Appendices A and B.

Statistical Treatment of Data

For the purpose of the study, six scores: forward, backward, and sideways balance; jumping; abdominal strength; and neuromuscular

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[12]Ibid., p. 29.

differentiation were derived from the PPMS for each individual. The Survey of Interpersonal Values also derived six scores for each individual: support; conformity; recognition; independence; benevolence; and leadership.

Means on each variable were computed for the two groups, along with the utilization of the t-test to compare the two groups on each variable. In addition, mean differences were computed to assess gain or loss in each variable from pretest to posttest, posttest to follow-up, and pretest to follow-up, as suggested by Gordon.[13] Significance of gain or loss was tested using t-test. Correlation coefficients were then computed using the gain or loss and the number of days of participation. This was done to assess if participation levels influence gain or loss in the variables through each phase of test administration. A total of 120 statistical tests were made. At the .05 level of significance, one could expect six of the 120 test results to be significant.

Statistical analysis of the data was made using the Statistical Analysis System (SAS) available through the University of Arkansas Computing Services. Graphs of the group means for each test administration were constructed to visualize the data for the purpose of discussion.

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[13]Leonard V. Gordon, Survey of Interpersonal Values, Revised Manual (Science Research Associates, 1976), p. 38.

Table 1

Comparison Values of Potentially Delinquent Boys
From Pretest to Posttest N=20

Variables	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	+Gain -Loss	t-value	Probability of t
1. Balance-forward	3.95	0.22	4.00	0.00	+0.05	1.00	0.33
2. Balance-backward	3.55	0.76	3.80	0.41	+0.25	1.75	0.10
3. Balance-sideways	3.05	1.15	3.30	0.73	+0.25	0.93	0.37
4. Jumping	3.00	0.86	3.40	0.82	+0.40	2.03	0.06
5. Strength-fitness	3.85	0.49	3.90	0.31	+0.05	0.57	0.58
6. Neuromuscular-differentiation	3.25	0.72	3.70	0.47	+0.45	2.44	0.02*
7. Support	14.55	3.84	13.85	4.08	-0.70	-0.77	0.45
8. Conformity	16.05	4.64	17.40	5.26	+1.35	0.99	0.33
9. Recognition	11.50	3.87	11.85	4.94	+0.35	0.37	0.71
10. Independence	16.35	5.08	16.55	5.61	+0.20	0.15	0.88
11. Benevolence	17.60	5.80	17.30	4.19	-0.30	-0.24	0.81
12. Leadership	13.85	3.65	12.30	4.97	-1.55	-2.16	0.04*

*Significant at 0.05 level.

Table 2

Comparison Values of Potentially Delinquent Boys
From Pretest to Follow-up N=20

Variables	Pretest Mean	Pretest S.D.	Follow-up Mean	Follow-up S.D.	+ Gain - Loss	t-value	Probability of t
1. Balance-forward	3.95	0.22	4.00	0.00	+0.05	1.00	0.33
2. Balance-backward	3.55	0.76	3.60	0.60	+0.05	0.27	0.79
3. Balance-sideways	3.05	1.15	3.35	0.74	+0.30	0.97	0.34
4. Jumping	3.00	0.86	3.60	0.60	+0.60	3.56	0.00*
5. Strength-fitness	3.85	0.49	3.75	0.55	-0.10	-1.00	0.33
6. Neuromuscular-differentiation	3.25	0.72	3.30	0.57	+0.05	0.29	0.77
7. Support	14.55	3.84	15.55	4.73	+1.00	1.04	0.31
8. Conformity	16.05	4.64	16.55	5.00	+0.50	0.50	0.62
9. Recognition	11.50	3.87	12.34	4.12	+0.85	1.13	0.27
10. Independence	16.35	5.08	15.40	6.18	-0.95	-0.91	0.37
11. Benevolence	17.60	5.80	16.10	6.64	-1.50	-0.88	0.38
12. Leadership	13.85	3.65	13.40	5.10	-0.45	-0.38	0.71

*Significant at 0.05 level.

Table 3

Comparison Values of Potentially Delinquent Boys From Posttest to Follow-up N=20

Variables	Posttest Mean	Posttest S.D.	Follow-up Mean	Follow-up S.D.	+ Gain - Loss	t-value	Probability of t
1. Balance-forward	4.00	0.00	4.00	0.00	0.00	-	-
2. Balance-backward	3.80	0.41	3.60	0.60	-0.20	-1.29	0.21
3. Balance-sideways	3.30	0.73	3.35	0.74	+0.05	0.29	.77
4. Jumping	3.40	0.82	3.60	0.60	+0.20	1.16	0.25
5. Strength-fitness	3.90	0.31	3.75	0.55	-0.15	-1.37	0.19
6. Neuromuscular-differentiation	3.70	0.47	3.30	0.57	-0.40	-2.62	0.02*
7. Support	13.85	4.08	15.55	4.73	+1.70	1.62	0.12
8. Conformity	17.40	5.26	16.55	5.00	-0.85	-0.77	0.45
9. Recognition	11.85	4.94	12.35	4.12	-0.50	0.40	0.70
10. Independence	16.55	5.61	15.40	6.18	+1.15	-0.90	0.38
11. Benevolence	17.30	4.19	16.10	6.64	-1.20	-0.78	0.44
12. Leadership	12.30	4.97	13.40	5.10	+1.10	0.90	0.38

*Significant at 0.05 level.

Table 4

Comparison Pretest Values of Potentially Delinquent Boys and Normal Boys

Variables	Delinquent N=20 Mean	S.D.	Normal N=20 Mean	S.D.	Mean Difference	t-value	Probability of t
1. Balance-forward	3.95	0.22	3.95	0.22	0.00	0.00	1.00
2. Balance-backward	3.55	0.76	3.80	0.52	-0.25	1.21	0.23
3. Balance-sideways	3.05	1.15	3.30	0.86	-0.25	0.78	0.44
4. Jumping	3.00	0.86	3.50	0.61	-0.50	2.12	0.04*
5. Strength-fitness	3.85	0.49	3.75	0.44	0.10	-0.68	0.50
6. Neuromuscular-differentiation	3.25	0.72	3.35	0.49	-0.10	0.52	0.61
7. Support	14.55	3.84	15.60	4.43	-1.05	0.80	0.43
8. Conformity	16.05	4.64	15.15	5.96	0.90	-0.53	0.60
9. Recognition	11.50	3.87	11.05	4.08	0.45	-0.36	0.72
10. Independence	16.35	5.08	16.70	4.58	-0.35	0.23	0.82
11. Benevolence	17.60	5.80	18.05	6.06	-0.45	0.24	0.81
12. Leadership	13.85	3.65	13.40	6.19	0.45	-0.28	0.78

*Significant at 0.05 level.

Table 5

Comparison Values of Normal Boys From Pretest to Posttest N=20

Variables	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	+ Gain - Loss	t-value	Probability of t
1. Balance-forward	3.95	0.22	4.00	0.00	+0.05	1.00	0.33
2. Balance-backward	3.80	0.52	3.85	0.37	+0.05	0.37	0.72
3. Balance-sideways	3.30	0.86	3.45	0.76	+0.15	0.83	0.42
4. Jumping	3.50	0.61	3.60	0.60	+0.10	0.49	0.63
5. Strength-fitness	3.75	0.44	3.90	0.31	+0.25	1.37	0.19
6. Neuromuscular-differentiation	3.35	0.49	3.65	0.49	+0.30	1.83	0.08
7. Support	15.60	4.43	14.45	4.30	-1.15	-1.57	0.13
8. Conformity	15.15	5.96	17.65	5.60	+2.50	2.71	0.01*
9. Recognition	11.05	4.08	10.60	4.50	-0.45	-0.55	0.59
10. Independence	16.70	4.58	15.80	5.61	-0.90	-0.76	0.45
11. Benevolence	18.05	6.06	17.95	4.89	-1.10	-0.10	0.92
12. Leadership	13.40	6.19	13.15	5.82	-1.25	-0.20	0.84

*Significant at 0.05 level.

Table 6

Comparison Values of Normal Boys From Posttest to Follow-up N=20

Variables	Posttest Mean	Posttest S.D.	Follow-up Mean	Follow-up S.D.	+ Gain - Loss	t-value	Probability of t
1. Balance-forward	4.00	0.00	4.00	0.00	0.00	-	-
2. Balance-backward	3.85	0.37	3.90	0.31	+0.05	0.57	0.58
3. Balance-sideways	3.45	0.76	3.55	0.76	+0.10	0.49	0.63
4. Jumping	3.60	0.60	3.40	0.60	-0.20	-1.00	0.33
5. Strength-fitness	3.90	0.31	3.60	0.50	-0.30	-2.35	0.03*
6. Neuromuscular-differentiation	3.65	0.49	3.40	0.60	-0.25	-1.75	0.10
7. Support	14.45	4.30	16.00	4.53	+1.55	1.79	0.09
8. Conformity	17.65	5.60	16.35	6.38	-1.30	-1.67	0.11
9. Recognition	10.60	4.50	11.55	5.23	+0.95	0.90	0.38
10. Independence	15.80	5.61	15.75	6.45	-0.05	-0.04	0.97
11. Benevolence	17.95	4.89	17.70	6.10	-0.25	-0.18	0.86
12. Leadership	13.15	5.82	11.65	6.10	-1.50	-1.19	0.25

*Significant at 0.05 level.

Table 7

Comparison Posttest Values of Potentially Delinquent Boys and Normal Boys

Variables	Delinquent N=20 Mean	S.D.	Normal N=20 Mean	S.D.	Mean Difference	t-value	Probability of t
1. Balance-forward	4.00	0.00	4.00	0.00	0.00	-	-
2. Balance-backward	3.80	0.41	3.85	0.37	-0.05	0.41	0.69
3. Balance-sideways	3.30	0.73	3.45	0.76	-0.15	0.64	0.53
4. Jumping	3.40	0.82	3.60	0.60	-0.20	0.88	0.38
5. Strength-fitness	3.90	0.31	3.90	0.31	0.00	0.00	1.00
6. Neuromuscular differentiation	3.70	0.47	3.65	0.49	0.05	-0.33	0.74
7. Support	13.85	4.08	14.45	4.30	-0.60	0.45	0.65
8. Conformity	17.40	5.26	17.65	5.60	-0.15	0.14	0.88
9. Recognition	11.85	4.94	10.60	4.50	1.15	-0.84	0.40
10. Independence	16.55	5.61	15.80	5.61	0.75	-0.42	0.67
11. Benevolence	17.30	4.19	17.95	4.89	-0.65	0.45	0.65
12. Leadership	12.30	4.97	13.15	5.82	-0.85	0.50	0.62

Table 9

Comparison Values of Normal Boys From Pretest to Follow-up N=20

Variables	Pretest Mean	Pretest S.D.	Follow-up Mean	Follow-up S.D.	+ Gain - Loss	t-value	Probability of t
1. Balance-forward	3.95	0.22	4.00	0.00	+0.05	1.00	0.33
2. Balance-backward	3.80	0.52	3.90	0.31	+0.10	0.81	0.43
3. Balance-sideways	3.30	0.86	3.55	0.76	+0.25	1.10	0.29
4. Jumping	3.50	0.61	3.40	0.60	-0.10	-0.62	0.54
5. Strength-fitness	3.75	0.44	3.60	0.50	-0.15	-1.37	0.19
6. Neuromuscular-differentiation	3.35	0.49	3.40	0.50	+0.05	0.33	0.75
7. Support	15.60	4.43	16.00	4.53	+0.40	0.53	0.60
8. Conformity	15.15	5.96	16.35	6.38	+1.20	1.29	0.21
9. Recognition	11.05	4.08	11.55	5.23	+0.50	0.61	0.55
10. Independence	16.70	4.58	15.75	6.45	-0.95	-0.74	0.47
11. Benevolence	18.05	6.06	17.70	6.10	-0.35	-0.29	0.77
12. Leadership	13.40	6.19	11.65	6.10	-1.85	-1.51	0.15

Table 10

Correlation Coefficients for Combined-Group Mean-Gains
and Amount of Recreation Participation
N=40 Participation Mean: 24.38 Days S.D. 11.47

Variables	Pretest - Posttest				Pretest - Follow-up				Posttest - Follow-up			
	$\bar{x}$	S.D.	r	Prob.	$\bar{x}$	S.D.	r	Prob.	$\bar{x}$	S.D.	r	Prob.
1. Bal-for.	0.05	0.22	-0.04	0.82	0.05	0.22	-0.04	0.82	0	0	0	1.00
2. Bal-back.	0.15	0.62	0.12	0.47	0.07	0.69	0.06	0.71	-0.08	0.57	-0.05	0.74
3. Bal-side.	0.20	1.02	-0.10	0.54	0.28	1.20	-0.19	0.24	0.08	0.83	-0.15	0.34
4. Jumping	0.25	0.90	0.10	0.53	0.25	0.81	0.19	0.24	0	0.85	0.07	0.66
5. Str-fit.	0.10	0.44	-0.11	0.50	-0.12	0.46	0.01	0.96	-0.22	0.53	0.10	0.54
6. Neuro-diff.	0.37	0.77	0.22	0.17	0.05	0.71	0.18	0.26	-0.32	0.66	-0.06	0.70
7. Support	-0.92	3.65	0.24	0.13	0.70	3.82	0.11	0.48	1.62	4.25	-0.11	0.51
8. Conformity	1.92	5.16	0.03	0.86	0.85	4.28	-0.10	0.54	-1.08	4.22	-0.14	0.40
9. Recognition	-0.05	3.91	-0.31	0.05	0.68	3.50	0.05	0.77	0.72	5.12	0.27	0.10
10. Independence	-0.35	5.57	0.27	0.09	-0.95	5.17	0.09	0.56	-0.60	5.55	-0.18	0.26
11. Benevolence	-0.20	4.89	0.01	0.96	-0.92	6.52	-0.19	0.24	-0.72	6.48	-0.20	0.23
12. Leadership	-0.90	4.50	-0.37	0.02*	-1.10	5.24	0.11	0.50	-0.20	5.63	0.40	0.01*

*Significant at 0.05 level.

Discussion

The Effect of the Recreation Program on the Potentially Delinquent Boys

The amount of significant tested variables was not substantial enough to accept the general hypothesis that the recreation program would affect the potentially delinquent boys. However, significance of mean-gains in the PPMS jumping variable and neuromuscular differentiation variable, along with the mean-loss in the SIV leadership variable lend support to the hypothesis that the program induced some effect. Figures 1 and 2 depict the progress of each variable from pretest to posttest and posttest to follow-up for both groups. The graph of the jumping variable indicates a dramatic gain for the potentially delinquent group from pretest to posttest. This gain was accompanied by a slight increase from posttest to follow-up. This may indicate that the gain was produced by the recreation program and that the proficiency in the skill was easily maintained and improved by the individual.

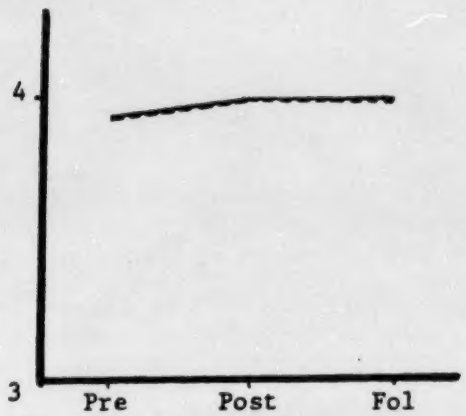
The converse situation seems to have occurred in the neuromuscular differentiation variable of the PPMS. The significant pretest to posttest gain was followed by a significant posttest to follow-up loss. This could support the idea that the gain was influenced by the recreation program, but was not maintained following conclusion of the recreation program. A need could be cited for sustaining the recreation program in an effort to positively influence and maintain neuromuscular differentiation.

The significant loss in the SIV leadership variable from pretest to posttest was not accompanied by a significant gain in the conformity variable, nor was it accompanied by significant mean differences in the

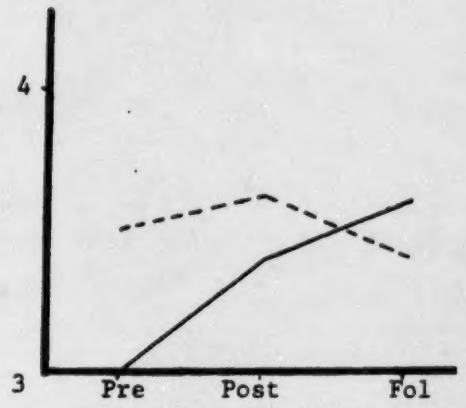
Figure 1

Graphs of PPMS Means for Pretest, Posttest and Follow-up N=20

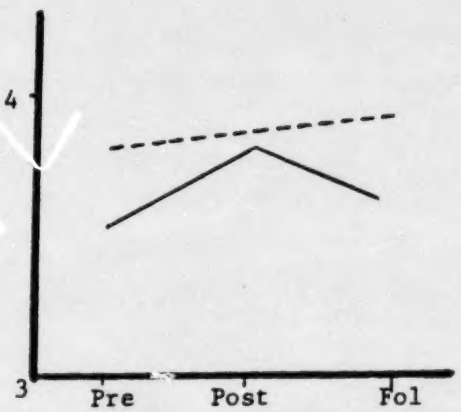
—— = Potentially Delinquent Group ---- = Normal Group



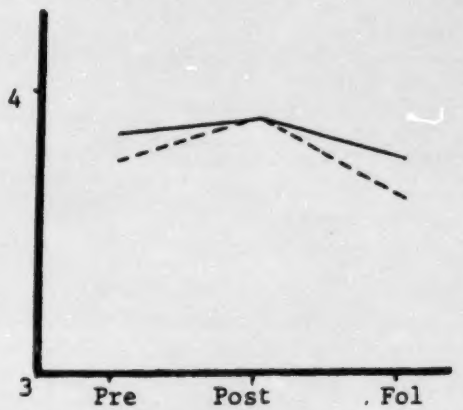
Group Means on Balance-forward



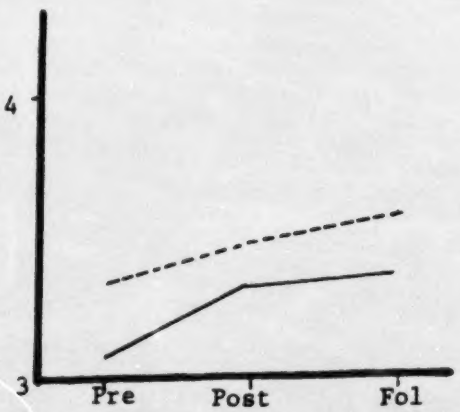
Group Means on Jumping



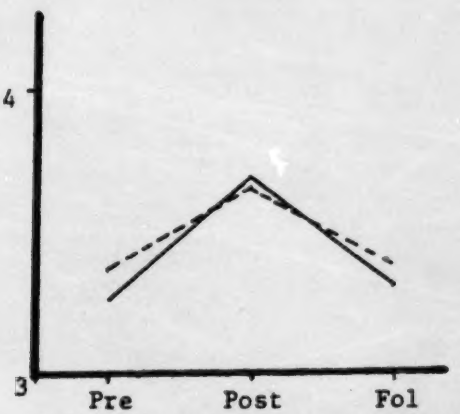
Group Means on Balance-backward



Group Means on Strength-fitness



Group Means on Balance-sideways

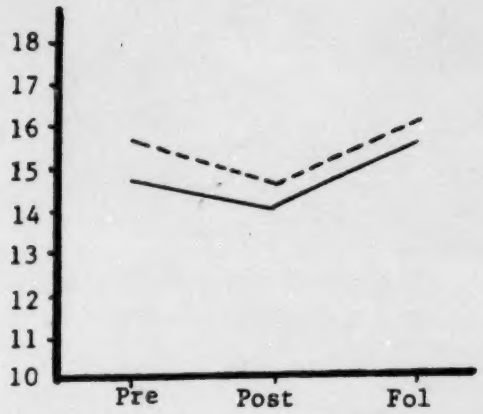


Group Means on Neuromuscular Differentiation

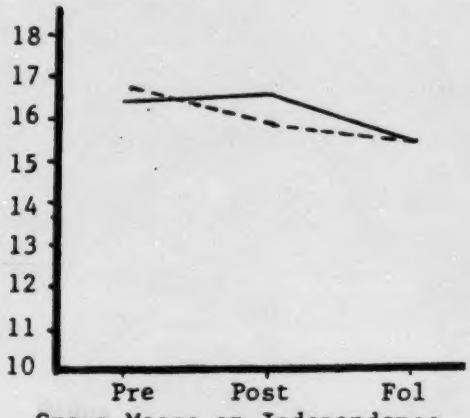
Figure 2

Graphs of SIV Means for Pretest,
Posttest and Follow-up N=20

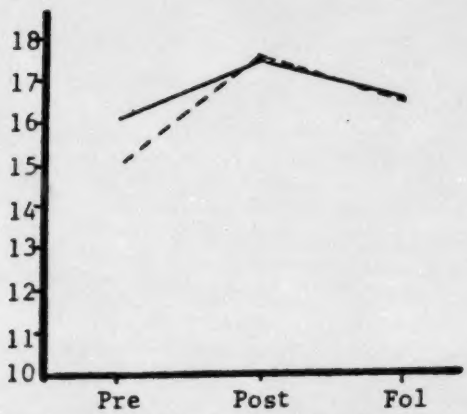
—— = Potentially Delinquent Group ---- = Normal Group



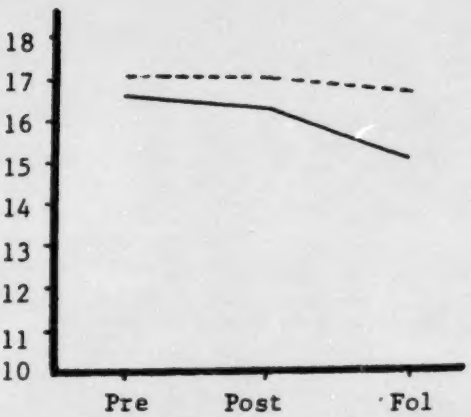
Group Means on Support



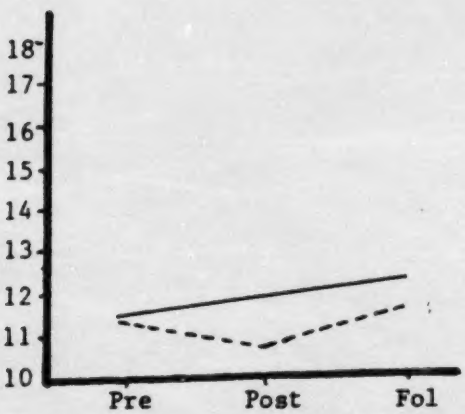
Group Means on Independence



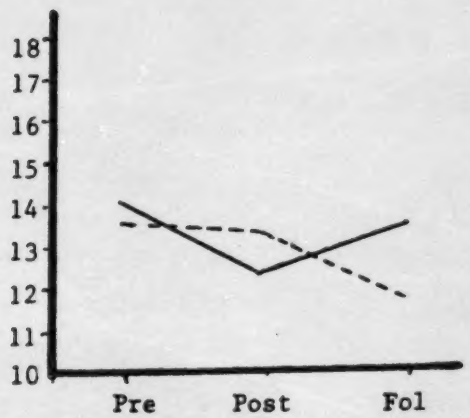
Group Means on Conformity



Group Means on Benevolence



Group Means on Recognition



Group Means on Leadership

other two testing phases. It seems that the value the potentially delinquent boys placed on leadership was negatively influenced by the recreation program. This could indicate a need for change in the recreation program to an emphasis on the communal setting where leadership is subordinate to cooperation. This cooperation to facilitate participation could be motivated, as Brademas reported, by the pursuit of fun and not benevolence, conformity, or leadership.[1]

Pretest Scores of Potentially Delinquent Boys and Normal Boys

Although the general hypothesis that there would be a significant difference in the groups on the pretest scores was rejected, t-test revealed a significant pretest difference in the groups on the PPMS jumping variable. The graph of the PPMS jumping variable located in Figure 1 depicts the pretest difference in the group means. No significant difference in the groups was found on the other variables.

Poindexter demonstrated that emotionally disturbed children receive lower total scores on the PPMS than normal children.[2] The present study found a difference between potentially delinquent boys and normal boys on only the PPMS jumping variable.

Gorman found no difference in emotionally disturbed children and

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[1]David James Brademas, The Leisure Time Interests of Fifty Delinquent Boys Prior to Commitment to the Illinois State Training School for Boys at St. Charles, Illinois (Urbana: University of Illinois Thesis, 1955).

[2]Hally B. Poindexter, "Motor Development and Performance of Emotionally Disturbed Children", Journal of Health, Physical Education and Recreation, 40:69-71, June, 1969.

normal children on the PPMS balance subtest.[3] The present study found no difference between potentially delinquent boys and normal boys on the PPMS variables of forward, backward, and sideways walking balance. It seems the pretest comparison of the groups lends support to the concept that tests involving movement-balance activities will not always yield differences in normal and potentially delinquent subjects.[4]

Differences Between Potentially Delinquent Boys and Normal Boys Following Participation in the Recreation Program

A comparison of pretest to posttest mean-gains indicated a significant t-value on the PPMS neuromuscular differentiation variable and the SIV conformity variable for the potentially delinquent group and normal group respectively. Since no other variables from either group showed significant gain, the general hypothesis that there would be a significant difference noted in the pretest to posttest period between the potentially delinquent group and the normal group was rejected.

Illustration of the group means for pretest and posttest, found in Figures 1 and 2, lends support to the general hypothesis. The graphs depict increases in potentially delinquent group means and somewhat consistent mean scores for the normal group on the PPMS variables of balance-backward and jumping. This could support the concept that the recreation program had a greater effect on both the balance-backward and

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[3]Dean R. Gorman, "Balance Ability and Reflex Maturation Among Normal, Learning Disabled and Emotionally Handicapped Populations", American Corrective Therapy Journal, 37:1:10-15, January, 1983.

[4]Ibid., p. 15.

jumping variable of the potentially delinquent group than those measures of the normal group.

The pretest means for the potentially delinquent group of 3.55 for balance-backward and 3.00 for jumping were lower than the pretest means of 3.80 and 3.50 respectively for the normal group. The posttest means for the potentially delinquent group of 3.80 for balance-backward and 3.40 for jumping were more comparable to the normal group posttest means of 3.85 for balance-backward and 3.60 for jumping. From the data, it seems that participation in the recreation program improved balance-backward and jumping mean-scores in the potentially delinquent group, while the normal group remained relatively static on the same measures. This could support the idea that participation in the recreation program equalizes skill deficits of potentially delinquent boys compared with skill levels of normal boys.

Differences Between Potentially Delinquent Boys and Normal Boys from Posttest to Follow-up

It was hypothesized that there would be a significant difference noted in the posttest to follow-up period between the potentially delinquent group and the normal group on measures of perceptual-motor skills and interpersonal values. This hypothesis was rejected. T-test analysis indicated a significant gain in only one variable for each group from posttest to follow-up. However, graphs of the means, found in Figures 1 and 2, lend support to the general hypothesis. The PPMS balance-backward variable, the SIV independence variable, and the SIV benevolence variable showed mean losses for the potentially delinquent group in the posttest to follow-up phase, while the normal group remained relatively

consistent on these measures. Figures 1 and 2 depict this occurance.

The balance-backward posttest means for the potentially delinquent group and the normal group were 3.80 and 3.85 respectively. The follow-up means for the same variable were 3.60 and 3.90 respectively. The respective posttest independence means for the potentially delinquent group and normal group were 16.55 and 15.80. The respective follow-up group means on independence were 15.40 and 15.75. For the benevolence variable, the posttest scores were 17.30 for the potentially delinquent group, and 17.95 for the normal group. The respective follow-up group means on benevolence were 16.10 and 17.70. The potentially delinquent group declined in each of these variables in the posttest-follow-up phase, while the normal group remained relatively consistent. This could lend support to the idea that potentially delinquent boys should maintain participation in a recreation program after school has resumed in order to maintain the positive influence of the program.

The Effect of Amount of Participation

The results of the t-test analysis of pretest and follow-up means for both groups, along with the computation of correlation coefficients between mean-gains and amount of participation were not substantial enough to accept the general hypothesis that participation in the recreation program would significantly affect measurements of perceptual-motor skills and interpersonal values of the potentially delinquent group and the normal group. However, one point merits discussion. The amount of participation in the recreation program produced an effect on the value placed on leadership by all participants in the study. Significant correlation coefficients were found for the SIV leadership variable and

the amount of participation. The pretest to posttest coefficient of -0.37 was significant, as was the posttest to follow-up coefficient of 0.40. These results could indicate the perspective of leadership that the heavy-participants maintained. Judging from the negative pretest to posttest correlation, it seems that the more the subjects participated, the less value they placed on leadership. However, during the posttest to follow-up period, the heavy-participants placed more value on leadership. This was indicated by the significant positive correlation for the leadership variable and the amount of participation from posttest to follow-up. These results support the idea that although leadership was not the main focus of heavy-participants during the recreation program, after completion of the program, they placed greater value on leadership.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of this study was to examine the effect of group participation in a recreation program on perceptual-motor skills and interpersonal values of potentially delinquent boys. A secondary purpose of the study was to compare the effect of group participation in the recreation program on the measures of perceptual-motor skills and interpersonal values of the potentially delinquent boys to those measures of a comparable group of normal boys. Perceptual-motor skills were measured by selected items from the Purdue Perceptual-Motor Survey. Those items selected were: forward, backward, and sideways balance; jumping; abdominal strength; and neuromuscular differentiation. Interpersonal values were measured by Gordon's Survey of Interpersonal Values. The survey measured the relative importance placed on: support; conformity; recognition; independence; benevolence; and leadership. The selected tests measured items considered theoretically basic to normal social adjustment.

Twenty boys classified as potentially delinquent by local juvenile authorities and twenty comparable volunteer normal boys comprised the participants for this study. The two groups were involved in separate but similar summer recreation programs. The instruments were administered during the first week in June; the first week in August; and the last week in September.

Differences in group means for the 12 scores of perceptual-motor skills and interpersonal values from each test administration were analyzed using t-test. Group-differences from pretest to posttest, from posttest to follow-up, and from pretest to follow-up were analyzed using t-test. Correlation coefficients were computed between the combined group data and the number of days of participation by each subject to determine the effect of the amount of participation in the recreation program. Significant mean-gains from pretest to posttest were noted in the PPMS neuromuscular differentiation variable of the potentially delinquent group. The normal group showed a significant gain in the SIV conformity variable from pretest to posttest. The posttest-follow-up analysis indicated a significant loss for the potentially delinquent group on the PPMS neuromuscular differentiation variable, while the normal group showed a significant loss in PPMS abdominal strength variable. The potentially delinquent group showed a significant gain in the PPMS jumping variable from pretest to follow-up, while the normal group showed no significant gain or loss. No significant differences were found between the group means for any of the three test administrations.

A significant negative correlation was reported between heavy-participants and the SIV leadership variable from the pretest to posttest. A significant positive correlation was reported on the SIV leadership variable from posttest to follow-up. No other significant coefficients were reported for the amount of participation and the remaining tested variables.

Conclusions

The data collected and the limitations of this study allow the following conclusions to be made:

1. Generally, group participation in a summer recreation program does not significantly affect measures of perceptual-motor skills and interpersonal values of potentially delinquent boys. However, three tested variables of the potentially delinquent group showed significant effect.

   a. Pretest to follow-up gain was noted in the PPMS jumping variable.

   b. Pretest to posttest gain was noted in the PPMS neuromuscular differentiation variable.

   c. Pretest to posttest loss was noted in the SIV leadership variable.

2. There is no significant difference in the perceptual-motor skills and interpersonal values of potentially delinquent boys and normal boys prior to beginning a summer recreation program. A significant difference between the groups was found on only one of 12 tested variables, (the PPMS jumping variable).

3. There is no significant difference between potentially delinquent boys and the normal boys on measures of perceptual-motor skills and interpersonal values before and after participation in a summer recreation program. The potentially delinquent group showed a pretest-posttest gain in the PPMS neuromuscular differentiation variable, while the normal group showed a gain in the SIV conformity variable.

4. There is no significant difference between potentially

delinquent boys and normal boys on measures of perceptual-motor skills and interpersonal values from the completion of the recreation program to approximately four weeks after the resumption of school. The potentially delinquent group showed a posttest-follow-up loss in the PPMS neuromuscular differentiation variable, while the normal group showed a loss in the PPMS abdominal strength variable.

5. Amount of participation in the recreation program does not significantly affect measures of perceptual-motor skills and interpersonal values of potentially delinquent boys and normal boys. However, the SIV leadership variable was significantly affected from pretest to posttest and from posttest to follow-up.

Recommendations

Further studies which examine recreation as a treatment affecting normal social adjustment in potentially delinquent boys seem warranted. The literature reports very few studies that justify the use of recreation with delinquents other than as a diversion. One of the drawbacks of this type of study is the combination of factors that contribute to delinquency. It seems that the specific social issues which contribute to antisocial behavior must be met directly and effectively if the problem of delinquency is ever to be solved.

The present study lacked control in the area of the recreation program. Further studies should attempt to control the recreation program and the amount of participation for both groups. The attempt should be made to raise participation levels of low-participation subjects.

In addition, there seems to be a lack of a motor skill test

designed for the 12 to 18 age group and for the juvenile delinquent. The development of a test of skills which are basic to normal social adjustment in juvenile delinquents seems warranted in light of the literature.

Although the Survey of Interpersonal Values is reported to be a valid and reliable instrument, it was certainly not without some problems in this study. The subjects placed relative value on the same statements in each test administration. The use of an instrument that can effectively measure change in personality or socialization as the result of a treatment would have been more conducive to the study.

The literature indicates a theoretical position on recreation as a treatment to facilitate normal social adjustment in potentially delinquent boys. The lack of conclusive results from this study indicate a need for further study of this subject.

The following recommendations for the further study of the effects of group participation in a recreation program on perceptual-motor skills and interpersonal values of potentially delinquent boys are presented for consideration as a result of the findings in this study:

1. Replicate this study and utilize larger samples.

2. Gain more control over the recreation program that is administered to both the experimental and control group and control the amount of participation.

3. Utilize personality and socialization factors to establish the groups and consider these factors when examining the effect of the recreation program.

4. Develop a skill test for the 12 to 18 age group and for the juvenile delinquent.

5. Group experimental subjects by the type and degree of delinquency.

6. Using larger samples, correlate the amount of participation with the variables by groups.

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APPENDICES

Appendix A

Participation Record for the Potentially Delinquent Group

ID	Participation in Days	Activities
1	30	Basketball, foosball, swimming, weights, pool.
2	42	Swimming, basketball, foosball, running, pool.
3	30	Basketball, pool, foosball, swimming
4	30	Basketball, pool, foosball, swimming.
5	35	Basketball, ping-pong, weights.
6	14	Weights, foosball.
7	50	Fishing, swimming, basketball.
8	6	Swimming.
9	50	Fishing, swimming.
10	18	Swimming, fishing, canoeing.
11	13	Swimming, foosball.
12	30	Swimming, video production.
13	20	Pool, basketball, ping-pong, foosball.
14	24	Basketball, pool, foosball.
15	30	Swimming, fishing, hiking, basketball, baseball.
16	35	Camping, hiking, canoeing, swimming, volleyball.
17	35	Swimming, fishing, camping, baseball, basketball, weights.
18	7	Weights, running, swimming.
19	22	Rollerskating, baseball, camping, fishing, swimming.
20	26	Baseball, rollerskating, camping, fishing, swimming.

Appendix B

Participation Record for
the Normal Group

ID	Participation in Days	Activities
1	30	Swimming, canoeing, running, basketball, softball, ultimate, volleyball.
2	25	Basketball, pool, ping-pong.
3	10	Pool, swimming, bowling, foosball.
4	15	Basketball, swimming, pool.
5	32	Basketball, swimming, weights, ping-pong, pool.
6	35	Basketball, weights.
7	25	Basketball.
8	7	Basketball, pool, swimming.
9	9	Basketball.
10	35	Pool, swimming, bowling, foosball.
11	19	Basketball, swimming, pool, rollerskating.
12	14	Basketball, pool, foosball, swimming.
13	32	Basketball, weights.
14	15	Basketball, weights.
15	30	Basketball, weights, volleyball.
16	12	Basketball, weights.
17	20	Basketball, pool, ping-pong.
18	7	Basketball, pool, ping-pong.
19	21	Basketball, foosball, pool.
20	35	Swimming, basketball, running, foosball, pool.